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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,253	01/16/2001	Zhenhua Wang	PHCH 000002	5183

7590 10/18/2002

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EXAMINER
TRAN, TOAN V

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 10/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/761,253	WANG, ZHENHUA	
	Examin r	Art Unit	
	Toan Tran	2816	

-- The MAILING DATE of this communication appears on the cover she t with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,10-12 and 15-19* is/are rejected.

7)☒ Claim(s) *2,4-9,13,14 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *11* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This Office Action is in response to the amendment filed September 10, 2002. Applicant's arguments with respect to the prior art rejection in the previous Office Action have been fully considered and are deemed to be persuasive. Therefore, the previous rejections have been withdrawn. However, the arguments are deemed moot in view of the following new grounds of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is indefinite because there is no antecedent basis for "the second current source".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application

published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1 and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Glass et al. (US Patent 6,037,890).

Regarding claim 1, Glass discloses in Fig. 4 a voltage level monitoring circuit, comprising: a first reference current source (60, 61) for generating a first reference current (I_{REF} at transistor 61); a monitoring current source (50, 51) for generating a monitoring current ($2I_{IN}$) derived from a voltage (VIN) to be measured; and a comparator device (the lowest CURRENT COMPARATOR in the figure) including a first current input coupled for receiving the first reference current, a second current input for receiving the monitoring current and at least one measuring signal output (OUT0, OUT0-bar), for generating at the output a measuring signal with a first value when the current at the second input is less than the current at the first input and with a second value when it's vice versa (the output of the current comparator is either high or low).

Note that claim 1 also reads on Fig. 1 of Glass, wherein 11 is the first reference current source, 1 is the monitoring current source, and 100 is the comparator device that generates either high or low at the output.

Regarding claim 10, in Fig. 1 of Glass, the monitoring current source (1) includes: a primary current source (2, 4, 5); a secondary current source (6); and a processing sensitive resistor (3).

Regarding claim 11, the primary current source includes a PMOS transistor (2) connected as recited in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glass (the patent applied above).

Even though the input voltage VIN and the first reference current source (60) are not disclosed as programmable current sources, it would have been obvious for one of ordinary skill in the art that they can be programmable current sources. That is because generating a current source or voltage source, digitally controlled to vary the desired amount of current or voltage is well known in the art as one of the ways to generate a current or voltage.

8. Claim 1 is also rejected under 35 U.S.C. 102(b) as being anticipated by Tang et al. (US Patent 5,966,330).

Tang discloses in Fig. 4 a voltage level monitoring circuit comprising: a first reference current source (QR) for generating a first reference current (REF); a monitoring current source (QP) for generating a monitoring current derived from a voltage to be measured (voltage on the cell); and a comparator device (420) that receives the two currents and generates a first or second value (1 or 0).

9. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang (the patent applied above).

It would have been obvious for one of ordinary skill in the art that the memory core cell QP that holds the voltage to be measured and the reference cell QR in Fig. 4 of Tang are programmable because it is well known in the art that memory cells in computer chips are programmable.

10. Claims 1 and 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Greitschus (US Patent 6,166,526).

Regarding claims 1 and 18, Greitschus discloses in Fig. 1 or Fig. 4 a voltage level monitoring circuit comprising: a first reference current source (6) for generating a first reference current; a second reference current (the current flowing through transistor 7); a monitoring current source (the current flowing through transistor 1) for generating a monitoring current derived from a voltage to be measured (UE); and a comparator device (5) whose first input receives the first and second reference currents and second input receives the monitoring current. It is clear from column 4, lines 37-43 and column 2, lines 31-38 that the comparator generates two level states ("first and second values" as called for in the claim) as lines 35-36 in column 2 recite that the comparator changes to "its other state".

Regarding claims 16-17, Fig. 4 shows that the first reference current source (6) is a programmable current source.

11. Claims 1, 3 and 15-18 are also rejected under 35 U.S.C. 102(b) as being anticipated by Ooishi et al. (US Patent 5,760,614).

Regarding claims 1 and 18, Ooishi discloses in Fig. 4 a voltage level monitoring circuit comprising: a first reference current source (Q20-Q22) for generating a first reference current; a second reference current (Q31); a monitoring current source (Q10-Q14) for generating a monitoring current derived from a voltage to be measured (VL); and a comparator device (3) whose input is coupled to the first current input that receives the first and second reference currents and the second current input that receives the monitoring current (just like shown in Fig. 2 of the present invention and claimed in claim 19), and the output of comparator 3 is either first or second value (see high level "H-level" in column 8, line 38 and low level "L-level" in column 8, line 46).

Regarding claim 3, the second reference current (Q31) being coupled to the comparator device through a controllable switch (Q30).

Regarding claim 15, the monitoring current source includes a programmable current source (Q10 is controlled by a programmable switch SW1).

Regarding claims 16-17, Fig. 4 shows that the first reference current source (6) is a programmable current source (dependent on the switches SW2-SW3).

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ooishi (the patent above).

Claim 19 reads on Fig. 4 of Ooishi in the same manner as claim 18 above. Furthermore, claim 19 asks for two inverters but Ooishi only shows an amplifier or buffer

3. However, it would have been obvious for one of ordinary skill in the art that amplifier 3 can easily be replaced by two inverters. Such a replacement is well known in the art to achieve the same results.

Allowable Subject Matter

13. Claims 2, 4-9, 13-14 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 12 would be allowable if rewritten to overcome the 112, second paragraph rejection.

Reasons: Claim 2 would be allowable because the prior art does not teach or suggest the PMOS transistor (50 in Fig. 2) as recited in the claim.

Claims 4-9, 12-14, and 20 would be allowable because the prior art does not teach or suggest the control signal from the comparator device to control the second reference current source as recited in the claims.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References are cited as of interest because they show some current comparator circuits that read on at least claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Tran whose telephone number is (703) 308-4866. The examiner can normally be reached on 8:30am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (703) 308-4876. The fax phone

numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Toan Tran
Primary Examiner
Art Unit 2816

TT
October 17, 2002